BISC/ImmPort Data Release 5 studies
November 2013

Study Program: Generation and Decay of Memory T Cell in Young, Old and Immunocompromised Populations
Title: Decay of Memory T cells In Old Population
Accession: SDY60
Subjects: 70
Study PI, contact: Jack Gorski, Blood Center of Wisconsin, Milwaukee, WI
Study Description: To expand our study of T cell memory repertoires in an aging population for which the repertoires may be decaying. These studies will provide data about the aging-specific dynamics of memory repertoires.
Publication(s): Selective T cell expansion during aging of CD8 memory repertoires to influenza revealed by modeling. *The Journal of Immunology* 186.11 (2011): 6617-6624. [PubMed]
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Clonotype	106
Flow Cytometry	539

Clinical Assessments in ImmPort: none
Notes: new study

Study Program: Modeling Immunity to Enteric Pathogens (MIEP)
Title: Immune responses to Helicobacter pylori in a pig model
Accession: SDY110
Subjects: 15
Study PI, contact: Barbara Kronsteiner-Dobramysl, Virginia Bioinformatics Institute, Blacksburg, VA
Study Description: With the objective of developing a large animal model of H. pylori infection, pigs were inoculated with either H. pylori strain SS1 or J99. Changes in peripheral blood mononuclear cell populations were monitored weekly, and mucosal immune responses and bacterial loads were assessed at day 57 post-infection.
Publication(s): Helicobacter pylori infection in a pig model is dominated by Th1 and cytotoxic CD8+ T cell responses *Infectious Immunity* 2013 Oct;81(10):3803-13. doi: 10.1128/IAI.00660-13. Epub 2013 Jul 29 [PubMed]
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Flow Cytometry	171
H. pylori reisolation	56
Q-PCR	76

Clinical Assessments in ImmPort: none
Notes: new study

Study Program: Modeling Immunity to Enteric Pathogens (MIEP)
Title: The Role of Peroxisome Proliferator-Activated Receptor gamma in Immune Responses to Enteroaggregative Escherichia coli Infection
Accession: SDY148

Subjects: 243
Study PI, contact: Raquel Hontecillas, Virginia Bioinformatics Institute, Blacksburg, VA
Study Description: Enteroaggregative Escherichia coli (EAEC) is recognized as an emerging cause of persistent diarrhea and enteric disease worldwide. Mucosal immunity towards EAEC infections is incompletely understood;due in part to the lack of appropriate animal models. This study presents a new mouse model and investigates the role of peroxisome proliferator-activated receptor gamma (PPARg) in the modulation of host responses to EAEC in nourished and malnourished mice.
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Other	345

Clinical Assessments in ImmPort:
Notes: new study

Study Program: Modeling Immunity to Enteric Pathogens (MIEP)
Title: Impact of Nutrition and Nitazoxanide on EAEC Infection
Accession: SDY214
Subjects: 100
Study PI, contact: Josep Bassaganya-Riera, Virginia Bioinformatics Institute, Blacksburg, VA
Study Description: Comparing EAEC JM221 to EAEC 042; comparing infection in nourished vs malnourished mice; studying the effect of NTZ on EAEC 042 infection
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
none	

Clinical Assessments in ImmPort: none
Notes: new study

Study Program: Modeling Immunity to Enteric Pathogens (MIEP)
Title: CD4+ T cell differentiation studies
Accession: SDY216
Subjects: 91
Study PI, contact: Josep Bassaganya-Riera, Virginia Bioinformatics Institute, Blacksburg, VA
Study Description: Experimental approaches were combined with computational modeling to investigate the mechanisms controlling differentiation and plasticity of CD4+ T cells in the gut of mice. The computational model encompasses the major intracellular pathways involved in CD4+ T cell differentiation into T helper 1 (Th1), Th2, Th17 and induced regulatory T cells (iTreg). Modeling efforts predicted a critical role for peroxisome proliferator-activated receptor gamma (PPARg) in modulating plasticity between Th17 and iTreg cells
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Flow Cytometry	300

Clinical Assessments in ImmPort:
Notes: new study

Study Program: Influenza Pathogenesis & Immunology Research Center (IPIRC)
Title: Aerosol Inoculation with a Sub-lethal Influenza Virus Leads to Exacerbated Morbidity and Pulmonary Disease Pathogenesis
Accession: SDY225
Subjects: 5
Study PI, contact: Ralph Tripp, Influenza Pathogenesis & Immunology Research Center, Atlanta, GA
Study Description: Examined how the method of inoculation affected immunity and disease pathogenesis in mice using mouseadaptedH3N2 A/Aichi/2/68 (x31)
Publication(s): Aerosol inoculation with a sub-lethal influenza virus leads to exacerbated morbidity and pulmonary disease pathogenesis. *Viral Immunology,* 2011 Apr;24(2):131-42. doi: 10.1089/vim.2010.0085. [PubMed]
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Flow Cytometry	10
Luminex xMAP	2
Microscopy	16
Molecular Quantification	6
Virus Titer	16

Clinical Assessments in ImmPort: none
Notes: new study

Study Program: Modeling Immunity to Enteric Pathogens (MIEP)
Title: Predictive computational modeling of the mucosal immune responses during Helicobacter pylori infection
Accession: SDY230
Subjects: 53
Study PI, contact: Josep Bassaganya-Riera, Virginia Bioinformatics Institute, Blacksburg, VA
Study Description: Our Helicobacter pylori computational models predicted that the cause of lesion formation during the chronic phase of disease is the effector immune responses and not the pathogenic effects of the bacterium itself. Mice will be set up as a maximum of 10 mice per group. 8-12 weeks old mice will be challenged with either PBS or 500uL 5*107 HP PMSS1 CFU/mL at days 0 and 2and mice will be fasted 12h prior to inoculation to increase colonization. Mice will be monitored on a daily basis
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Flow Cytometry	58
Histology	10

Clinical Assessments in ImmPort: none
Notes: new study

Study Program: Stanford HIPC Proj Blish_NK_Study-1
Title: Determinants of human NK cell diversity by mass cytometry
Accession: SDY232
Subjects: 22
Study PI, contact: Catherine Blish, Stanford University School of Medicine, Stanford, CA
Study Description: To provide an unprecedented understanding of NK cell repertoire diversity, mass cytometry was used to simultaneously analyze 35 parameters, including 28 NK cell receptors, on peripheral blood NK cells from five sets of monozygotic twins and twelve unrelated donors of defined HLA and killer cell immunoglobulin-like receptor (KIR) genotype. This analysis revealed a remarkable degree of NK cell diversity, with an estimated 6,000-30,000 phenotypic populations within an individual and >100,000 phenotypes in this population.
Publication(s): Genetic and environmental determinants of human NK cell diversity revealed by mass cytometry. *Science Translational Medicine* 2013 Oct 23;5(208):208ra145. doi: 10.1126/scitranslmed.3006702 [PubMed]
Assays in ImmPort:

Assay Type	Number of Exp. Samples
Flow Cytometry, CyTOF	22

Clinical Assessments in ImmPort: none
Notes: new study

Study Program: Responses to Influenza Vaccination in Systemic Lupus
Title: Responses to Influenza Vaccination in Systemic Lupus Year 1 2005-2006
Accession: SDY196
Subjects: 62
Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK
Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	1488
Flow Cytometry	1865
Hemagglutination Inhibition	744

Clinical Assessments in ImmPort: none
Notes: Flow cytometry experiments combined based on flow cytometry panel

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Study Program: Responses to Influenza Vaccination in Systemic Lupus
Title: Responses to Influenza Vaccination in Systemic Lupus Year 2 2006-2007
Accession: SDY197
Subjects: 63
Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK

Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	1488
Flow Cytometry	2331
Hemagglutination Inhibition	744

Clinical Assessments in ImmPort: none
Notes: Flow cytometry experiments combined based on flow cytometry panel

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Study Program: Responses to Influenza Vaccination in Systemic Lupus
Title: Responses to Influenza Vaccination in Systemic Lupus Year 3 2007-2008
Accession: SDY198
Subjects: 74
Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK
Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	1488
Flow Cytometry	2733
Hemagglutination Inhibition	744

Clinical Assessments in ImmPort: none
Notes: Flow cytometry experiments combined based on flow cytometry panel

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Study Program: Responses to Influenza Vaccination in Systemic Lupus
Title: Responses to Influenza Vaccination in Systemic Lupus Year 4 2008-2009
Accession: SDY199
Subjects: 69
Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK
Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	1488
Flow Cytometry	2440
Hemagglutination Inhibition	744

Clinical Assessments in ImmPort: none

Notes: Flow cytometry experiments combined based on flow cytometry panel

Study Program: Responses to Influenza Vaccination in Systemic Lupus
Title: Responses to Influenza Vaccination in Systemic Lupus Year 5 2009-2010
Accession: SDY200
Subjects: 70
Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK
Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.
Publication: none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	1488
Flow Cytometry	635
Hemagglutination Inhibition	744

Clinical Assessments in ImmPort: none
Notes: Flow cytometry experiments combined based on flow cytometry panel

Study Program: Responses to Influenza Vaccination in Systemic Lupus
Title: Responses to Influenza Vaccination in Systemic Lupus Year 6 2010-2011
Accession: SDY201
Subjects: 34
Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK
Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.
Publication(s): none
Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	1488
Flow Cytometry	860
Hemagglutination Inhibition	744

Clinical Assessments in ImmPort: none
Notes: Flow cytometry experiments combined based on flow cytometry panel